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CERTIFICATE OF MAILING UNDER 37 C.F.R. §1.8

I hereby certify that this correspondence is being deposited with the United States Postal Service as first class mail, with sufficient postage, in an envelope addressed to: Commissioner for Patents, P. O. Box 1450, Alexandria, VA 22313-1450, on the below date:

Date: August 8, 2007 Name: Yuezhong Feng, Ph.D.

Signature:

**BRINKS
HOFER
GILSON
& LIONE**

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Appln. of: Frederick J. Lang et al.

Appln. No.: 09/900,698

Filed: September 5, 2006

For: PRE-MOISTENED WIPE PRODUCT

Attorney Docket No: 659/1721

Examiner: Alexis A. Wachtel

Art Unit: 1764

Commissioner for Patents
P. O. Box 1450
Alexandria, VA 22313-1450

TRANSMITTAL

Certificate

AUG 13 2007

of Correction

Sir:

Attached is/are:

- Request for Certificate of Correction (in dup.); Certificate of Correction Form PTO-1050 (in dup.)
 Return Receipt Postcard

Fee calculation:

- No additional fee is required.
 Small Entity.
 An extension fee in an amount of \$ _____ for a _____-month extension of time under 37 C.F.R. § 1.136(a).
 A petition or processing fee in an amount of \$ _____ under 37 C.F.R. § 1.17(______).
 An additional filing fee has been calculated as shown below:

	Claims Remaining After Amendment		Highest No. Previously Paid For	Present Extra	Small Entity		Not a Small Entity	
					Rate	Add'l Fee	or	Rate
Total		Minus			x \$25=			x \$50=
Indep.		Minus			x 100=			x \$200=
First Presentation of Multiple Dep. Claim					+\$180=			+\$360=
					Total	\$		Total

Fee payment:

- A check in the amount of \$ _____ is enclosed.
 Please charge Deposit Account No. 23-1925 in the amount of \$ _____. A copy of this Transmittal is enclosed for this purpose.
 Payment by credit card in the amount of \$ _____ (Form PTO-2038 is attached).
 The Director is hereby authorized to charge payment of any additional filing fees required under 37 CFR § 1.16 and any patent application processing fees under 37 CFR § 1.17 associated with this paper (including any extension fee required to ensure that this paper is timely filed), or to credit any overpayment, to Deposit Account No. 23-1925.

Respectfully submitted,

Yuezhong Feng, Ph.D. (Reg. No. 58,657)

8/8/07

Date

BRINKS HOFER GILSON & LIONE
NBC Tower – Suite 3600, 455 N. Cityfront Plaza Drive, Chicago, IL 60611-5599

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Yuezhong Feng, Ph.D., Reg. No. 58,657

Name of applicant, assignee, or
Registered Representative

yuezhong feng

AUG 10 2007

Signature

8/8/07

Date of Signature



Our File No. 659-1721

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of:)
Frederick J. Lang et al.)
Patent No.: 7,101,612 B2) Examiner: Alexis A. Wachtel
Issue Date: September 5, 2006) Group Art Unit: 1764
Serial No.: 09/900,698)
Filing Date: July 7, 2001)
For: PRE-MOISTENED WIPE PRODUCT)

REQUEST FOR CERTIFICATE OF CORRECTION

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Attn: Certificate of Corrections Branch

Sir:

Please issue a Certificate of Correction for the above-identified patent to correct the errors listed on the accompanying Form PTO-1050. This request is being made pursuant to 35 U.S.C. § 254, since the errors comprise minor or typographical errors by the Patent and Trademark Office.

AUG 13 2007

We filed an Amendment After Notice of Allowance Under 37 C.F.R. § 1.312 on April 12, 2005 (enclosed as Exhibit A). In the Response to Rule 312 Communication mailed June 27, 2006 (enclosed as Exhibit B), the Examiner indicated that the amendment as filed in the Amendment After Notice of Allowance Under 37 C.F.R. § 1.312 has been entered as directed to matters of form not affecting the scope of the invention. Thereafter, the patent for the above-identified application ("the '612 patent") issued on September 5, 2006.

A majority of the amendment to the specification as filed in the Amendment After Notice of Allowance Under 37 C.F.R. § 1.312 was reflected in the granted patent. Several amendments listed in the Amendment After Notice of Allowance Under 37 C.F.R. § 1.312, however, were not included in the granted patent.

Specifically, we requested that three occurrences of "(MS-CDWT-M)" be deleted from lines 10-29 on page 67 of the specification (see Amendment After Notice of Allowance, pages 3-4). Only the first two occurrences were deleted while the third one remains in the granted patent (see column 39, lines 21-46 of the '612 patent).

We requested that three occurrences of "g/in²" be substituted with "g/in" on lines 5-11 on page 74 of the specification (see Amendment After Notice of Allowance, pages 4-5). Only the first occurrence was amended correctly while the other two were amended incorrectly, that is, "g/in²" was incorrectly substituted with "g/in 2", rather than with "g/in" as we requested (see column 43, lines 18-25 of the '612 patent).

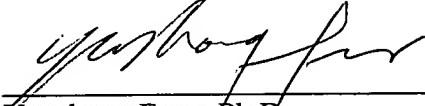
We also requested that the first row of Table 11 on page 87, and the first and tenth rows of Table 29 on page 117 of the specification be amended (see Amendment After Notice of Allowance, page 12). The granted patent does not include the amendment to both Tables 11 and 29 (see column 51, Table 11, and columns 69-70, Table 29 of the '612 patent).

We note that the table number on page 117 of the specification was referred to incorrectly (it should be "Table 29", NOT "Table 20" as indicated in the Amendment After Notice of Allowance). The Amendment After Notice of Allowance, however, did recite the correct page number and row numbers.

AUG 13 2007

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Respectfully submitted,



Yuezhong Feng, Ph.D.
Registration No. 58,657
Agent for Applicants

BRINKS HOFER GILSON & LIONE
P.O. Box 10395
Chicago, Illinois 60610
(312) 321-4200

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Name of applicant, assignee, or
Registered Representative



Signature

8/8/07

Date of Signature

Our File No. 659-1721

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of:

Frederick J. Lang et al.

Patent No.: 7,101,612 B2

Issue Date: September 5, 2006

Serial No.: 09/900,698

Filing Date: July 7, 2001

For: PRE-MOISTENED WIPE PRODUCT

) Examiner: Alexis A. Wachtel

) Group Art Unit: 1764

Commissioner for Patents

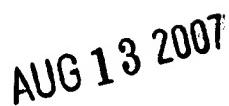
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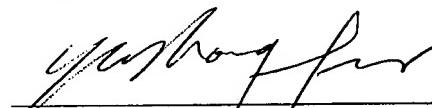
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**UNITED STATES PATENT AND TRADEMARK OFFICE
CERTIFICATE OF CORRECTION**

PATENT NO : 7,101,612 B2

Page 1 of 2

APPLICATION NO.: 09/900,698

ISSUE DATE : September 5, 2006

INVENTOR(S) : Frederick J. Lang et al.

It is certified that error appears or errors appear in the above-identified patent and that said Letters Patent is hereby corrected as shown below:

In the Specification

In column 39, line 42, after "about one hour" delete "(MS-CDWT-M)".

In column 43, line 24, delete "200 g/in 2" and substitute --200 g/in-- in its place.

In column 43, line 25, after "than about" delete "300 g/in 2" and substitute --300 g/in-- in its place.

In column 51, Table 11, replace the entire first row with the following:

--	Run	Pulp/ PET	BW (gsm)	TH (mm)	MDDT (kg/3-in)	CDDT (kg/3-in)	CDWT (kg/3-in)	S-CDWT-M (kg/3-in)	--
----	-----	--------------	-------------	------------	-------------------	-------------------	-------------------	-----------------------	----

In columns 69-70, Table 29, replace the entire first row with the following:

--	Example Description and Designation	CDWT (g/in)	S-CDWT 1hr in 10 ppm (g/in)	S-CDWT 1hr in 200 ppm (g/in)	Percent CDWT after 1 hr in 200 ppm (%)	Sheet Thickness (mm)	Opacity (%)	Cup Crush Energy (g-mm)	Cup Crush Peak Load (g)	Format
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MAILING ADDRESS OF SENDER (Please do not use customer number below): PATENT NO. 7,101,612 B2

Yuezhong Feng, Ph.D.

BRINKS HOFER GILSON & LIONE

P.O. Box 10395

Chicago, Illinois 60610

This collection of information is required by 37 CFR 1.322, 1.323, and 1.324. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 1.0 hour to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Attention Certificate of Corrections Branch, Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

If you need assistance in completing the form, call 1-800-PTO-9199 and select option 2.

AUG 13 2007

UNITED STATES PATENT AND TRADEMARK OFFICE
CERTIFICATE OF CORRECTION

PATENT NO : 7,101,612 B2
 APPLICATION NO. : 09/900,698
 ISSUE DATE : September 5, 2006
 INVENTOR(S) : Frederick J. Lang et al.

Page 2 of 2

It is certified that error appears or errors appear in the above-identified patent and that said Letters Patent is hereby corrected as shown below:

In the Specification (cont'd)

In columns 69-70, Table 29, replace the entire tenth row with the following:

- Comparative Example 46 68 gsm, 100% pulp, 100% Lion SSB, 20% binder (1312); Code 1312	411	57	280	68	0.46	46.8	195	30	--
---	-----	----	-----	----	------	------	-----	----	----

MAILING ADDRESS OF SENDER (Please do not use customer number below): **Yuezhong Feng, Ph.D.** PATENT NO. 7,101,612 B2
BRINKS HOFER GILSON & LIONE
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Page 1 of 2

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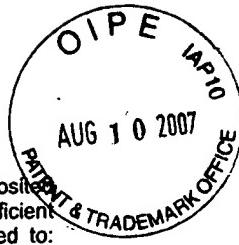
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Exhibit A

April 12, 2005

Date of Deposit

OIE
APR 18 2005
JCA

Thomas J. Wrona, Ph.D. - Reg. No. 44,410

Name of applicant, assignee or
Registered Representative

Signature

4/12/05

Date of Signature

Our Case No. 659-1721
Client Ref. No. 15938.1

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of:

Frederick J. LANG, et al.

Serial No. 09/900,698

Filing Date: July 7, 2001

For: PRE-MOISTENED WIPE
PRODUCT

) Examiner: Alexis A. Wachtel

) Group Art Unit No. 1764

AMENDMENT AFTER NOTICE OF ALLOWANCE UNDER 37 C.F.R. § 1.312

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Dear Sir:

Applicants respectfully request entry of the following Amendment and Remarks under 37 C.F.R. § 1.312.

AUG 13 2007

AMENDMENT

In the Specification:

Please amend the specification as follows (the changes in the specification are shown with ~~strikethrough~~ for deleted matter and underlines for added matter).

Please add the following paragraphs after line 31 on page 8 as inadvertently omitted brief descriptions of the figures.

Fig. 4 shows a cup-crush testing system which includes a cup forming assembly and force testing unit.

Fig. 5 shows the cup-crush testing system of Fig. 4 engaging a sheet.

Please replace the paragraph from line 22 on page 36 to line 15 on page 37 with the following paragraph:

The binder formulations of the present invention are particularly useful for binding fibers of air-laid nonwoven fabrics. These air-laid materials are useful for body-side liners, fluid distribution materials, fluid in-take materials, such as a surge material, absorbent wrap sheet and cover stock for various water-dispersible personal care products. Air-laid materials are particularly useful for use as a pre-moistened wipe (wet wipe). The basis weights for air-laid non-woven fabrics may range from about 20 to about 200 grams per square meter ("gsm") with staple fibers having a denier of about 0.5-10 and a length of about 6-15 millimeters. Surge, or in-take, materials need better resiliency and higher loft so staple fibers having about 6 denier or greater are used to make these products. A desirable final density for the surge, or in-take, materials is between about 0.025 grams per cubic centimeter ("g/cc") to about 0.10 g/cc. Fluid distribution materials may have a higher density, in the desired range of about 0.10 to about 0.20 g/cc using fibers of lower denier, most desirable fibers have a denier of less than about 1.5. Wipes generally can have a fiber final density of about 0.025 g/cc to

about 0.2 g/cc and a basis weight of about 20 gsm to about 150 gsm; specifically from about 30 to about 90 gsm, and most specifically from about 60 gsm to about 65 gsm. The wipe retains its structure, softness and exhibits a toughness satisfactory for practical use. However, when brought into contact with water having a concentration of multivalent ions, such as Ca^{2+} and Mg^{2+} ions, of up to about 200 ppm, the wipe disperses. Similarly, when brought into contact with water having a concentration of multivalent ions, such as Ca^{2+} and Mg^{2+} ions, of less than about 10 ppm, the wipe disperses. The wipe is then easily broken into fibers and/or small pieces and dispersed in the water.

Please replace the paragraph from line 5 to line 14 on page 65 with the following paragraph:

Cross direction wet tensile tests (CDWT) or machine direction wet tensile strength (MDWT) are performed as described above using the pre-moistened sample as is, after the sample has equilibrated by sitting overnight in a sealed plastic bag. Alternatively, wet tensile results can be measured with an MTS Synergie 200 tensile tester using the Testworks™ 3.10 for Windows software. A 1-inch wide by 4-inch long strip can be used for testing. The gauge length between the jaws of the test device may be 3 inches. Testing is operated at the specified cross head speed of 12 in/min. The peak load for each of 10 samples was measured and the average peak load in g/1" reported as in Table 29.

Please replace the paragraph from line 10 to line 29 on page 67 with the following paragraph:

Desirably, in another embodiment, the wet wipes of the present invention possess an in-use wet tensile strength (CDWT) of at least 100 g/in, and a tensile strength of less than about 70 g/in after being soaked in water having a concentration of Ca^{2+} and/or Mg^{2+} ions of about 10 ppm for about one hour (MS-CDWT-M). Additionally, these wet wipes have a tensile strength of less than about 60% of the original CDWT after being soaked

in water having a concentration of Ca^{2+} and/or Mg^{2+} ions of about 200 ppm for about one hour. More desirably, the wet wipes possess an in-use wet tensile strength (CDWT) of at least 200 g/in, and a tensile strength of less than about 50 g/in after being soaked in water having a concentration of Ca^{2+} and/or Mg^{2+} ions of about 10 ppm for about one hour (MS-CDWT-M). Additionally, these wet wipes have a tensile strength of less than about 40% of the original CDWT after being soaked in water having a concentration of Ca^{2+} and/or Mg^{2+} ions of about 200 ppm for about one hour. Even more desirably, the wet wipes possess an in-use wet tensile strength (CDWT) of at least 300 g/in, and a tensile strength of less than about 30 g/in after being soaked in water having a concentration of Ca^{2+} and/or Mg^{2+} ions of about 10 ppm for about one hour (MS-CDWT-M). Additionally, these wet wipes have a tensile strength of less than about 20% of the original CDWT after being soaked in water having a concentration of Ca^{2+} and/or Mg^{2+} ions of about 200 ppm for about one hour.

Please replace the paragraph from line 26 on page 73 to line 2 on page 74 with the following paragraph:

The thicker the wet wipe the better, as a sheet that is too thin may not provide an effective barrier between the user of the product and the surface being cleaned. At sheet thicknesses less than about 0.25 mm, the sheet would be considered too thin or flimsy. Accordingly, the wet wipe sheets of the present invention desirably have a thickness greater than about 0.25 mm. More desirably, the wet wipe sheets of the present invention have a thickness greater than about 0.3 mm. Most desirably, the wet wipe sheets of the present invention have a thickness greater than about 0.4 mm.

Please replace the paragraph from lines 5 to 11 on page 74 with the following paragraph:

Wet wipes made according to the present invention desirably have a wet tensile strength sufficient such that the wipes may be used without breaking or tearing. Accordingly, the wipes of the present invention desirably have a wet tensile strength of

greater than about 100 g/in² g/in. More desirably, the wet wipes have a wet tensile strength of greater than about 200 g/in² g/in. Most desirably, the wet wipes have a wet tensile strength of greater than about 300 g/in² g/in.

Please replace the paragraph from line 5 to line 27 on page 75 with the following paragraph:

One measure of the softness of a non-woven fabric sheet 1202 is determined according to the "cup crush" test by system 1100. The cup crush test evaluates fabric stiffness by measuring the peak load (also called the "cup crush load" or just "cup crush") required for a 1.6 cm diameter hemispherically shaped foot 1108 to crush the wipe 1202 shaped into an approximately 3.2 cm diameter by 3.2 cm tall cup shape, while the now cup shaped fabric is surrounded by an approximately 3.2 cm diameter cylinder cup 1110 to maintain a uniform deformation of the cup shaped fabric 1102. There can be gaps between the ring 1114 and forming cup 1110, but at least four corners 1106 must be fixedly pinched there between. The foot 1108 and cylinder cup 1110 are aligned to avoid contract between the cup walls and the foot that could affect the readings. The load is measured in grams, and recorded a minimum of twenty times per second while the foot is descending at a rate of about 406 mm per minute. The cup crush test provides a value for the total energy required to crush a sample (the "cup crush energy") which is the energy over a 2.0 cm range beginning 0.5 cm below the top of the fabric cup, i.e., the area under the curve formed by the load in grams on one axis and the distance the foot travels in millimeters on the other. Cup crush energy is reported in gm-mm g-mm (or inch-pounds). A lower cup crush value indicates a softer material. A suitable device for measuring cup crush is a model 2700096 load cell (10N) available from the MTS Systems Corporation of Minneapolis, Minn. The cup crush (cup crush load) values reported in the Examples are the average of 15 tests, each conducted on a previously untested sample.

Please replace the paragraph from line 17 to line 25 on page 76 with the following paragraph:

The products wet opacity is desirably higher as the wet opacity provides an indication that the wet wipe will be able to perform its desired function without breaking or otherwise tearing. And wet opacity is generally lower than dry opacity as the addition of the solution reduces the amount of light scattering in the product resulting in lower wet opacities than a corresponding dry opacity for the same product. Accordingly, the wet wipes of the present invention desirably have a wet opacity of greater than about 20%. More desirably, the wet wipes of the present invention desirably have a wet opacity of greater than about 35%.

Please replace the paragraph from line 7 to line 12 on page 79 with the following paragraph:

The sensitivity of the polymer formulations of Example 3 to divalent cations present in hard water were measured. Samples Films cast from samples 1-10 of Example 3 are placed in a number of CaCl₂ solutions with a Ca²⁺ concentration varying from <10 to 200 ppm. Following soaking for an hour, the solubility of each polymer is noted. The solubility results are given below in Table 7.

Please replace the paragraph from line 12 to line 24 on page 90 with the following paragraph:

Each of the particle suspensions was then added to dried airlaid basesheets that had been treated with NaAMPS binder and a co-binder polymer according to Example 13. The add level was 200%, with application by spray on one side of the web. The moistened web was then sealed in plastic to sit overnight. Examination of the pre-moistened wipes treated with particulate suspensions as the wetting composition revealed that the particles generally remained in the wet wipe without the need for additional thickeners or polymeric retention aids. Squeezing the pre-moistened wipes, for example, yielded a mostly clear fluid apparently substantially devoid of particulates, in contrast to the milky suspensions used to wet the wipes. Generally, no visible residue

appeared to be left of the hands after using the wipes. The particulates also generally improved opacity and appeared to slightly provide tactile property improvements (reduced tack, better Theological rheological feel).

Please replace the paragraph from line 17 to line 24 on page 94 with the following paragraph:

An airlaid substrate was made with the equipment described for Example 10. Basis weight was 65 gsm and the fibers were 100% Weyerhaeuser CF405 bleached softwood kraft pulp. The binder solution had 12.8 weight percent binder solids, 75 weight percent of which was SSB Code H of Table 15 and 25 weight percent Dur-O-Set RB latex co-binder (National Starch). The binder solution was sprayed onto the web as described in Example 4 10, with the dryer air temperature at 215°C for all three oven sections.

Please replace the paragraph from line 28 to line 30 on page 94 with the following paragraph:

An airlaid substrate was made according to Example 10 19, except that the basis weight was 63 gsm and the oven temperature was 227°C. Reel speed was 197 fpm. Thickness of the dried web was 1.30 mm.

Please replace the paragraph from line 10 to line 22 on page 100 with the following paragraph:

Additional samples were prepared according to Example 24 above, except that 15 weight % of the fiber blend consisted of 6-mm, crimped PET fibers (KoSa). Different co-binders from Table 16 were blended with the salt-sensitive binder Code F from Table 15. The binder blend was then applied using the methods described in Example 10 to create the airlaid substrates whose properties are listed in Table 21. In each case, 20% binder solids were applied to the substrate in a blend of 75% SSB/25% co-binder. The

properties of these substrates were measured after wetting with a 4% NaCl solution. All three co-binders perform comparably. All of the substrates have lost their tensile strength in 200 ppm divalent cation solution independent of co-binder type. Compared to the parallel results in Example 24, incorporation of the synthetic fibers impart a slight to modest strength improvement (CDWT) and a modest increase in dry bulk thickness.

Please replace the paragraph from line 18 on page 104 to line 8 on page 105 with the following paragraph:

As the percentage of the salt sensitive binder in the blend is decreased from 100% to 55% there is only to a modest decrease in the CDWT at constant dry bulk thickness. At compositions of 65% salt-sensitive binder in the binder blend, the substrate begins to retain a greater portion of its wet strength after soaking for 1 hour in 200 ppm of the divalent cation solution. As the web is densified prior to the first binder application and the percentage of salt sensitive binder in the blend is reduced to 65% or lower, a greater amount of strength is retained after soaking in DI water or the 200 ppm divalent cation solution for 1 hour compared to the same compositions at a higher dry bulk thickness. These examples suggest that increasing the co-binder content with or without additional densification of the web can begin to compromise substrate dispersibility.

Please replace the paragraph from line 9 to line 13 on page 105 with the following paragraph:

The results in Table 25 also show significant CDWT increases as the thickness of the dry web is compressed prior to the application of the binder. Codes 3007 to 3010 show that the CDWT is increasing as a function of decreasing dry bulk thickness with no loss of substrate dispersibility at constant binder conditions.

Please replace the paragraph from line 8 to line 11 on page 106 with the following paragraph:

AUG 13 2007

Samples were made as in Example 10 using 75/25 blends of SSB SSB binder (see Table 15) and Dur-O-Set RB co-binder (co-binder 1 of Table 16), according to the information in Table 27 below. Tensile results in Table 27 show good dispersibility over a range of product conditions.

Please replace the paragraph from line 3 to line 11 on page 111 with the following paragraph:

The attributes of three, commercially available flushable wet wipe products were characterized and are listed in table 100 29. These products are Cottonelle® Flushable Moist Wipes, Just for Me® Flushable Moist Wipes, and Charmin Kid Fresh® Flushable Wipes. All three products are sold in a flat, folded format. The substrates of these products are all adhesively bonded airlaid basesheets. While these products have the strength, opacity, thickness, and cup crush values to make them commercial successful, none of them are dispersible. All three of these products retain nearly all of their CDWT strength on soaking in 10 ppm or 200 ppm Ca⁺⁺/Mg⁺⁺ solutions.

Please replace the paragraph from line 14 to line 19 on page 111 with the following paragraph:

Moist Mates® is a product that has been introduced into the market on two different occasions. In its first introduction a hydroentangled basesheet was used to produce a wet wipe with the properties noted in table 100 29, coded as MM-1. This product had good attributes except that it retained a substantial amount of its original strength (>100 g/1") on soaking in either 10 ppm or 200 ppm Ca⁺⁺/Mg⁺⁺ solutions.

Please replace the paragraph from line 20 to line 25 on page 111 with the following paragraph:

In its second introduction to the market, an adhesively bonded airlaid basesheet was used. The properties of this product also appear in Table 29, coded as MM-2. The second introduction has acceptable properties except that it is again not dispersible and in fact has poorer dispersibility than its original introductory product. The Moist Mates.TM. product is sold in a roll format.

Please replace the paragraph from line 31 to line 35 on page 112 with the following paragraph:

Airlaid substrates 3007 and 3010 from Example 30, Table 25, were wetted with the wetting solution of Example 36 39 using a hand spray application of the wetting solution. Solution add-on was 200%. The samples were immersed in water containing 10 ppm or 200 ppm of Ca⁺⁺/Mg⁺⁺ in a 2:1 ratio, soaked for 1 hour and then tested.

Please replace the paragraph from line 11 to line 15 on page 114 with the following paragraph:

Both codes L and R have in use CDWT strength greater than 100 g/1" combined with a wet thickness greater than 0.3 mm, a wet opacity >35%, a wet cup crush test less than 40 g and soaked CDWTs less than 30 g/1" after soaking in solutions of either 10 ppm or 200 ppm of 2:1 Ca⁺⁺/Mg⁺⁺ for 1 hour.

Please replace the paragraph from line 18 to line 26 on page 114 with the following paragraph:

A 55 gsm, airlaid substrate was created using the methods of Example 42 43 except that 15 weight % of the fiber furnish consisted of 6 mm, crimped PET fibers (KOSA). The binder level, binders, binder blend, and dry sheet thickness were the same as those in Example 42 43. Some of the dried web was slit to 4.25-inch width and treated with the wetting solution of Example 18 at 225% add-on. The moistened web was converted into a coreless, perforated roll form for use as pre-moistened wipes to be

dispensed from a bathroom dispenser. The properties of these wipes appear in Table 29 listed as Code J.

Please replace the paragraph from line 30 to line 33 on page 115 with the following paragraph:

As shown in Table 29 these wipes have excellent dispersibility in either 10 ppm or 200 ppm 2:1 Ca⁺⁺/Mg⁺⁺ solutions. The wet wipes also have very good in use wet strength (CDWT), wet sheet thickness, wet opacity, and wet cup crush properties.

Please replace the paragraph from line 13 to line 19 on page 116 with the following paragraph:

Although this prototype has very good in use strength (CDWT), thickness, opacity and cup crush properties, its soaked tensile strength is very sensitive to the water in which it is soaked. This prototype has a S-CDWT after one hour in hard water ~~dispersibility of 80% that is 68%~~ of the original in-use wet strength and is therefore not dispersible in hard water. In the 10 ppm soaking solution it has a CDWT >30 g/1". In the 200 ppm soaking solution it has a CDWT of 355 ~~280~~ g/1" after 1 hour.

Please replace the first row of Table 11 on page 87 with the following row:

Run	Pulp/PET	BW (gsm)	TH (mm)	MDDT (kg/3-in)	CDDT (kg/3-in)	CDWT (kg/3-in)	S-CDWT-M (kg/3-in)

Please replace the first and tenth rows of Table 20 on page 117 with the following rows:

Example Description and Designation	CDWT (g/in ² g/in)	S-CDWT 1 hr in 10 ppm (g/in)	S-CDWT 1 hr in 200 ppm (g/in)	Percent CDWT after 1 hr in 200 ppm (%)	Sheet Thickness (mm)	Opacity (%)	Cup Crush Energy (g-mm)	Cup Crush Peak Load (g-mm g)	Format

Comparative Example 46 68 gsm, 100% pulp, 100% Lion SSB, 20% binder (1312); Code 1312	411	57	280	80 <u>68</u>	0.46	46.8	195	30	
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REMARKS

Applicants respectfully submit that the present amendment is appropriate for entry inasmuch as it merely corrects formal matters and typographic errors in the specification without changing the scope of the claims. Furthermore, the amendments do not add new matter. Entry of the present amendment is respectfully requested.

Respectfully submitted,



Thomas J. Wrona, Ph.D.
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Attorney for Applicants

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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/900,698	07/07/2001	Frederick J. Lang	659/1721	4892
757	7590	06/27/2006	EXAMINER	
BRINKS HOFER GILSON & LIONE P.O. BOX 10395 CHICAGO, IL 60610			WACHTEL, ALEXIS A	
			ART UNIT	PAPER NUMBER
			1764	

DATE MAILED: 06/27/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Exhibit B

13 2007

Response to Rule 312 Communication	Application No.	Applicant(s)	
	09/900,698	LANG ET AL.	
	Examiner Alexis Wachtel	Art Unit 1764	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

1. The amendment filed on 18 April 2005 under 37 CFR 1.312 has been considered, and has been:

- a) entered.
- b) entered as directed to matters of form not affecting the scope of the invention.
- c) disapproved because the amendment was filed after the payment of the issue fee.
Any amendment filed after the date the issue fee is paid must be accompanied by a petition under 37 CFR 1.313(c)(1) and the required fee to withdraw the application from issue.
- d) disapproved. See explanation below.
- e) entered in part. See explanation below.



Glenn Calderola
Supervisory Patent Examiner
Technology Center 1700

AUG 13 2007

I hereby certify that this correspondence is being deposited with the United States Postal Service, with sufficient postage, as first class mail in an envelope addressed to: Mail Stop Issue Fee, Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450, on

Exhibit A

April 12, 2005

Date of Deposit

Thomas J. Wrona, Ph.D. – Reg. No. 44,410

Name of applicant, assignee or
Registered Representative

Signature

4/12/05

Date of Signature



Our Case No. 659-1721
Client Ref. No. 15938.1

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of:)
Frederick J. LANG, et al.)
Serial No. 09/900,698) Examiner: Alexis A. Wachtel
Filing Date: July 7, 2001) Group Art Unit No. 1764
For: PRE-MOISTENED WIPE)
PRODUCT)

AMENDMENT AFTER NOTICE OF ALLOWANCE UNDER 37 C.F.R. § 1.312

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Dear Sir:

Applicants respectfully request entry of the following Amendment and Remarks under 37 C.F.R. § 1.312.

AUG 13 2007

AMENDMENT

In the Specification:

Please amend the specification as follows (the changes in the specification are shown with ~~strikethrough~~ for deleted matter and underlines for added matter).

Please add the following paragraphs after line 31 on page 8 as inadvertently omitted brief descriptions of the figures.

Fig. 4 shows a cup-crush testing system which includes a cup forming assembly and force testing unit.

Fig. 5 shows the cup-crush testing system of Fig. 4 engaging a sheet.

Please replace the paragraph from line 22 on page 36 to line 15 on page 37 with the following paragraph:

The binder formulations of the present invention are particularly useful for binding fibers of air-laid nonwoven fabrics. These air-laid materials are useful for body-side liners, fluid distribution materials, fluid in-take materials, such as a surge material, absorbent wrap sheet and cover stock for various water-dispersible personal care products. Air-laid materials are particularly useful for use as a pre-moistened wipe (wet wipe). The basis weights for air-laid non-woven fabrics may range from about 20 to about 200 grams per square meter ("gsm") with staple fibers having a denier of about 0.5-10 and a length of about 6-15 millimeters. Surge, or in-take, materials need better resiliency and higher loft so staple fibers having about 6 denier or greater are used to make these products. A desirable final density for the surge, or in-take, materials is between about 0.025 grams per cubic centimeter ("g/cc") to about 0.10 g/cc. Fluid distribution materials may have a higher density, in the desired range of about 0.10 to about 0.20 g/cc using fibers of lower denier, most desirable fibers have a denier of less than about 1.5. Wipes generally can have a fiber final density of about 0.025 g/cc to

about 0.2 g/cc and a basis weight of about 20 gsm to about 150 gsm; specifically from about 30 to about 90 gsm, and most specifically from about 60 gsm to about 65 gsm. The wipe retains its structure, softness and exhibits a toughness satisfactory for practical use. However, when brought into contact with water having a concentration of multivalent ions, such as Ca^{2+} and Mg^{2+} ions, of up to about 200 ppm, the wipe disperses. Similarly, when brought into contact with water having a concentration of multivalent ions, such as Ca^{2+} and Mg^{2+} ions, of less than about 10 ppm, the wipe disperses. The wipe is then easily broken into fibers and/or small pieces and dispersed in the water.

Please replace the paragraph from line 5 to line 14 on page 65 with the following paragraph:

Cross direction wet tensile tests (CDWT) or machine direction wet tensile strength (MDWT) are performed as described above using the pre-moistened sample as is, after the sample has equilibrated by sitting overnight in a sealed plastic bag. Alternatively, wet tensile results can be measured with an MTS Synergie 200 tensile tester using the TestworksTM 3.10 for Windows software. A 1-inch wide by 4-inch long strip can be used for testing. The gauge length between the jaws of the test device may be 3 inches. Testing is operated at the specified cross head speed of 12 in/min. The peak load for each of 10 samples was measured and the average peak load in g/1" reported as in Table 29.

Please replace the paragraph from line 10 to line 29 on page 67 with the following paragraph:

Desirably, in another embodiment, the wet wipes of the present invention possess an in-use wet tensile strength (CDWT) of at least 100 g/in, and a tensile strength of less than about 70 g/in after being soaked in water having a concentration of Ca^{2+} and/or Mg^{2+} ions of about 10 ppm for about one hour (MS-CDWT-M). Additionally, these wet wipes have a tensile strength of less than about 60% of the original CDWT after being soaked

in water having a concentration of Ca^{2+} and/or Mg^{2+} ions of about 200 ppm for about one hour. More desirably, the wet wipes possess an in-use wet tensile strength (CDWT) of at least 200 g/in, and a tensile strength of less than about 50 g/in after being soaked in water having a concentration of Ca^{2+} and/or Mg^{2+} ions of about 10 ppm for about one hour (MS-CDWT-M). Additionally, these wet wipes have a tensile strength of less than about 40% of the original CDWT after being soaked in water having a concentration of Ca^{2+} and/or Mg^{2+} ions of about 200 ppm for about one hour. Even more desirably, the wet wipes possess an in-use wet tensile strength (CDWT) of at least 300 g/in, and a tensile strength of less than about 30 g/in after being soaked in water having a concentration of Ca^{2+} and/or Mg^{2+} ions of about 10 ppm for about one hour (MS-CDWT-M). Additionally, these wet wipes have a tensile strength of less than about 20% of the original CDWT after being soaked in water having a concentration of Ca^{2+} and/or Mg^{2+} ions of about 200 ppm for about one hour.

Please replace the paragraph from line 26 on page 73 to line 2 on page 74 with the following paragraph:

The thicker the wet wipe the better, as a sheet that is too thin may not provide an effective barrier between the user of the product and the surface being cleaned. At sheet thicknesses less than about 0.25 mm, the sheet would be considered too thin or flimsy. Accordingly, the wet wipe sheets of the present invention desirably have a thickness greater than about 0.25 mm. More desirably, the wet wipe sheets of the present invention have a thickness greater than about 0.3 mm. Most desirably, the wet wipe sheets of the present invention have a thickness greater than about 0.4 mm.

Please replace the paragraph from lines 5 to 11 on page 74 with the following paragraph:

Wet wipes made according to the present invention desirably have a wet tensile strength sufficient such that the wipes may be used without breaking or tearing. Accordingly, the wipes of the present invention desirably have a wet tensile strength of

greater than about 100 g/in² g/in. More desirably, the wet wipes have a wet tensile strength of greater than about 200 g/in² g/in. Most desirably, the wet wipes have a wet tensile strength of greater than about 300 g/in² g/in.

Please replace the paragraph from line 5 to line 27 on page 75 with the following paragraph:

One measure of the softness of a non-woven fabric sheet 1202 is determined according to the "cup crush" test by system 1100. The cup crush test evaluates fabric stiffness by measuring the peak load (also called the "cup crush load" or just "cup crush") required for a 1.6 cm diameter hemispherically shaped foot 1108 to crush the wipe 1202 shaped into an approximately 3.2 cm diameter by 3.2 cm tall cup shape, while the now cup shaped fabric is surrounded by an approximately 3.2 cm diameter cylinder cup 1110 to maintain a uniform deformation of the cup shaped fabric 1102. There can be gaps between the ring 1114 and forming cup 1110, but at least four corners 1106 must be fixedly pinched there between. The foot 1108 and cylinder cup 1110 are aligned to avoid contract between the cup walls and the foot that could affect the readings. The load is measured in grams, and recorded a minimum of twenty times per second while the foot is descending at a rate of about 406 mm per minute. The cup crush test provides a value for the total energy required to crush a sample (the "cup crush energy") which is the energy over a 2.0 cm range beginning 0.5 cm below the top of the fabric cup, i.e., the area under the curve formed by the load in grams on one axis and the distance the foot travels in millimeters on the other. Cup crush energy is reported in gm-mm g-mm (or inch-pounds). A lower cup crush value indicates a softer material. A suitable device for measuring cup crush is a model 2700096 load cell (10N) available from the MTS Systems Corporation of Minneapolis, Minn. The cup crush (cup crush load) values reported in the Examples are the average of 15 tests, each conducted on a previously untested sample.

Please replace the paragraph from line 17 to line 25 on page 76 with the following paragraph:

The products wet opacity is desirably higher as the wet opacity provides an indication that the wet wipe will be able to perform its desired function without breaking or otherwise tearing. And wet opacity is generally lower than dry opacity as the addition of the solution reduces the amount of light scattering in the product resulting in lower wet opacities than a corresponding dry opacity for the same product. Accordingly, the wet wipes of the present invention desirably have a wet opacity of greater than about 20%. More desirably, the wet wipes of the present invention desirably have a wet opacity of greater than about 35%.

Please replace the paragraph from line 7 to line 12 on page 79 with the following paragraph:

The sensitivity of the polymer formulations of Example 3 to divalent cations present in hard water were measured. Samples Films cast from samples 1-10 of Example 3 are placed in a number of CaCl₂ solutions with a Ca²⁺ concentration varying from <10 to 200 ppm. Following soaking for an hour, the solubility of each polymer is noted. The solubility results are given below in Table 7.

Please replace the paragraph from line 12 to line 24 on page 90 with the following paragraph:

Each of the particle suspensions was then added to dried airlaid basesheets that had been treated with NaAMPS binder and a co-binder polymer according to Example 13. The add level was 200%, with application by spray on one side of the web. The moistened web was then sealed in plastic to sit overnight. Examination of the pre-moistened wipes treated with particulate suspensions as the wetting composition revealed that the particles generally remained in the wet wipe without the need for additional thickeners or polymeric retention aids. Squeezing the pre-moistened wipes, for example, yielded a mostly clear fluid apparently substantially devoid of particulates, in contrast to the milky suspensions used to wet the wipes. Generally, no visible residue

appeared to be left of the hands after using the wipes. The particulates also generally improved opacity and appeared to slightly provide tactile property improvements (reduced tack, better Theological rheological feel).

Please replace the paragraph from line 17 to line 24 on page 94 with the following paragraph:

An airlaid substrate was made with the equipment described for Example 10. Basis weight was 65 gsm and the fibers were 100% Weyerhaeuser CF405 bleached softwood kraft pulp. The binder solution had 12.8 weight percent binder solids, 75 weight percent of which was SSB Code H of Table 15 and 25 weight percent Dur-O-Set RB latex co-binder (National Starch). The binder solution was sprayed onto the web as described in Example 4 10, with the dryer air temperature at 215°C for all three oven sections.

Please replace the paragraph from line 28 to line 30 on page 94 with the following paragraph:

An airlaid substrate was made according to Example 4 10 19, except that the basis weight was 63 gsm and the oven temperature was 227°C. Reel speed was 197 fpm. Thickness of the dried web was 1.30 mm.

Please replace the paragraph from line 10 to line 22 on page 100 with the following paragraph:

Additional samples were prepared according to Example 24 above, except that 15 weight % of the fiber blend consisted of 6-mm, crimped PET fibers (KoSa). Different co-binders from Table 16 were blended with the salt-sensitive binder Code F from Table 15. The binder blend was then applied using the methods described in Example 10 to create the airlaid substrates whose properties are listed in Table 21. In each case, 20% binder solids were applied to the substrate in a blend of 75% SSB/25% co-binder. The

properties of these substrates were measured after wetting with a 4% NaCl solution. All three co-binders perform comparably. All of the substrates have lost their tensile strength in 200 ppm divalent cation solution independent of co-binder type. Compared to the parallel results in Example 24, incorporation of the synthetic fibers impart a slight to modest strength improvement (CDWT) and a modest increase in dry bulk thickness.

Please replace the paragraph from line 18 on page 104 to line 8 on page 105 with the following paragraph:

As the percentage of the salt sensitive binder in the blend is decreased from 100% to 55% there is only to a modest decrease in the CDWT at constant dry bulk thickness. At compositions of 65% salt-sensitive binder in the binder blend, the substrate begins to retain a greater portion of its wet strength after soaking for 1 hour in 200 ppm of the divalent cation solution. As the web is densified prior to the first binder application and the percentage of salt sensitive binder in the blend is reduced to 65% or lower, a greater amount of strength is retained after soaking in DI water or the 200 ppm divalent cation solution for 1 hour compared to the same compositions at a higher dry bulk thickness. These examples suggest that increasing the co-binder content with or without additional densification of the web can begin to compromise substrate dispersibility.

Please replace the paragraph from line 9 to line 13 on page 105 with the following paragraph:

The results in Table 25 also show significant CDWT increases as the thickness of the dry web is compressed prior to the application of the binder. Codes 3007 to 3010 show that the CDWT is increasing as a function of decreasing dry bulk thickness with no loss of substrate dispersibility at constant binder conditions.

Please replace the paragraph from line 8 to line 11 on page 106 with the following paragraph:

Samples were made as in Example 10 using 75/25 blends of ~~SSb~~ SSB binder (see Table 15) and Dur-O-Set RB co-binder (co-binder 1 of Table 16), according to the information in Table 27 below. Tensile results in Table 27 show good dispersibility over a range of product conditions.

Please replace the paragraph from line 3 to line 11 on page 111 with the following paragraph:

The attributes of three, commercially available flushable wet wipe products were characterized and are listed in table 100 29. These products are Cottonelle® Flushable Moist Wipes, Just for Me® Flushable Moist Wipes, and Charmin Kid Fresh® Flushable Wipes. All three products are sold in a flat, folded format. The substrates of these products are all adhesively bonded airlaid basesheets. While these products have the strength, opacity, thickness, and cup crush values to make them commercial successful, none of them are dispersible. All three of these products retain nearly all of their CDWT strength on soaking in 10 ppm or 200 ppm Ca⁺⁺/Mg⁺⁺ solutions.

Please replace the paragraph from line 14 to line 19 on page 111 with the following paragraph:

Moist Mates® is a product that has been introduced into the market on two different occasions. In its first introduction a hydroentangled basesheet was used to produce a wet wipe with the properties noted in table 100 29, coded as MM-1. This product had good attributes except that it retained a substantial amount of its original strength (>100 g/1") on soaking in either 10 ppm or 200 ppm Ca⁺⁺/Mg⁺⁺ solutions.

Please replace the paragraph from line 20 to line 25 on page 111 with the following paragraph:

In its second introduction to the market, an adhesively bonded airlaid ~~basesheet~~
~~basesheet~~ was used. The properties of this product also appear in Table 29, coded as MM-2. The second introduction has acceptable properties except that it is again not dispersible and in fact has poorer dispersibility than its original introductory product. The Moist Mates.TM. product is sold in a roll format.

Please replace the paragraph from line 31 to line 35 on page 112 with the following paragraph:

Airlaid substrates 3007 and 3010 from Example 30, Table 25, were wetted with the wetting solution of Example 36 39 using a hand spray application of the wetting solution. Solution add-on was 200%. The samples were immersed in water containing 10 ppm or 200 ppm of Ca⁺⁺/Mg⁺⁺ in a 2:1 ratio, soaked for 1 hour and then tested.

Please replace the paragraph from line 11 to line 15 on page 114 with the following paragraph:

Both codes L and R have in use CDWT strength greater than 100 g/1" combined with a wet thickness greater than 0.3 mm, a wet opacity >35%, a wet cup crush test less than 40 g and soaked CDWTs less than 30 g/1" after soaking in solutions of either 10 ppm or 200 ppm of 2:1 Ca⁺⁺/Mg⁺⁺ for 1 hour.

Please replace the paragraph from line 18 to line 26 on page 114 with the following paragraph:

A 55 gsm, airlaid substrate was created using the methods of Example 42 43 except that 15 weight % of the fiber furnish consisted of 6 mm, crimped PET fibers (KOSA). The binder level, binders, binder blend, and dry sheet thickness were the same as those in Example 42 43. Some of the dried web was slit to 4.25-inch width and treated with the wetting solution of Example 18 at 225% add-on. The moistened web was converted into a coreless, perforated roll form for use as pre-moistened wipes to be

dispensed from a bathroom dispenser. The properties of these wipes appear in Table 29 listed as Code J.

Please replace the paragraph from line 30 to line 33 on page 115 with the following paragraph:

As shown in Table 29 these wipes have excellent dispersibility in either 10 ppm or 200 ppm 2:1 Ca⁺⁺/Mg⁺⁺ solutions. The wet wipes also have very good in use wet strength (CDWT), wet sheet thickness, wet opacity, and wet cup crush properties.

Please replace the paragraph from line 13 to line 19 on page 116 with the following paragraph:

Although this prototype has very good in use strength (CDWT), thickness, opacity and cup crush properties, its soaked tensile strength is very sensitive to the water in which it is soaked. This prototype has a S-CDWT after one hour in hard water ~~dispersibility of 80% that is 68%~~ of the original in-use wet strength and is therefore not dispersible in hard water. In the 10 ppm soaking solution it has a CDWT >30 g/1". In the 200 ppm soaking solution it has a CDWT of 355 ~~280~~ g/1" after 1 hour.

Please replace the first row of Table 11 on page 87 with the following row:

Run	Pulp/PET	BW <u>(gsm)</u>	TH <u>(mm)</u>	MDDT <u>(kg/3-in)</u>	CDDT <u>(kg/3-in)</u>	CDWT <u>(kg/3-in)</u>	S-CDWT-M <u>(kg/3-in)</u>

Please replace the first and tenth rows of Table 20 on page 117 with the following rows:

Example Description and Designation	CDWT <u>(g/in² g/in)</u>	S-CDWT 1hr in 10 ppm (g/in)	S-CDWT 1hr in 200 ppm (g/in)	Percent CDWT after 1 hr in 200 ppm (%)	Sheet Thickness (mm)	Opacity (%)	Cup Crush Energy (g-mm)	Cup Crush Peak Load (gm g)	Format

Comparative Example 46 68 gsm, 100% pulp, 100% Lion SSB, 20% binder (1312); Code 1312	411	57	280	80 <u>68</u>	0.46	46.8	195	30	
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REMARKS

Applicants respectfully submit that the present amendment is appropriate for entry inasmuch as it merely corrects formal matters and typographic errors in the specification without changing the scope of the claims. Furthermore, the amendments do not add new matter. Entry of the present amendment is respectfully requested.

Respectfully submitted,



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Please find below and/or attached an Office communication concerning this application or proceeding.

Exhibit B

AUG 13 2007

Response to Rule 312 Communication	Application No.	Applicant(s)	
	09/900,698	LANG ET AL.	
	Examiner Alexis Wachtel	Art Unit 1764	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

1. The amendment filed on 18 April 2005 under 37 CFR 1.312 has been considered, and has been:

- a) entered.
- b) entered as directed to matters of form not affecting the scope of the invention.
- c) disapproved because the amendment was filed after the payment of the issue fee.

Any amendment filed after the date the issue fee is paid must be accompanied by a petition under 37 CFR 1.313(c)(1) and the required fee to withdraw the application from issue.

- d) disapproved. See explanation below.
- e) entered in part. See explanation below.



Glenn Calderola
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AUG 13 2007